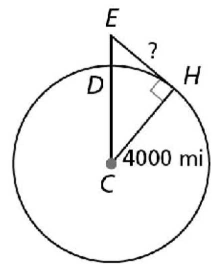
Question	Answer	Solution
11.	chords: $\overline{RS}$, $\overline{VW}$; tangent: ℓ; radii: $\overline{PV}$, $\overline{PW}$; secant: $\overleftrightarrow{VW}$; diameter: $\overline{VW}$	chords: $\overline{RS}$, $\overline{VW}$; tangent: ℓ; radii: $\overline{PV}$, $\overline{PW}$; secant: $\overleftrightarrow{VW}$; diameter: $\overline{VW}$
12.	chords: $\overline{AC}$, $\overline{DE}$; tangent: $\overleftrightarrow{CF}$; radii: $\overline{BA}$, $\overline{BC}$; secant: $\overleftrightarrow{DE}$; diameter: $\overline{AC}$	chords: $\overline{AC}$, $\overline{DE}$; tangent: $\overleftrightarrow{CF}$; radii: $\overline{BA}$, $\overline{BC}$; secant: $\overleftrightarrow{DE}$; diameter: $\overline{AC}$
13.	radius of $\odot$ C:2; radius of $\odot$ D:4; pt. of tangency:$(-4, 0)$; eqn. of tangent line: $x = -4$	radius of $\odot$ C: $2 - 0 = 2$ radius of $\odot$ D: $4 - 0 = 4$ point of tangency: $(-4, 0)$ equation of tangent line: $x = -4$
14.	radius of $\odot$ M:1; radius of $\odot$ N:3; pt. of tangency:(2, 1); eqn. of tangent line:$y = 1$	radius of $\odot$ M: $3 - 2 = 1$ radius of $\odot$ N: $5 - 2 = 3$ point of tangency: (2, 1) equation of tangent line: $y = 1$

Question	Answer	Solution
15.	413 km	**1 Understand the Problem** The answer will be the length of an imaginary segment from the summit of Olympus Mons to Mars' horizon. **2 Make a Plan** Let C be the center of Mars, let E be summit of Olympus Mons, and let H be a point on the horizon. Find the length of $\overline{EH}$, which is tangent to circle C at H. By Thm. 11-1-1, $\overline{EH} \perp \overline{CH}$. So triangle CHE is a right triangle.  **3 Solve** $EC = CD + ED$ $\approx 3397 + 25 = 3422$ km $EC^2 \approx EH^2 + CH^2$ $3422^2 \approx EH^2 + 3397^2$ $170{,}475 \approx EH^2$ $413 \text{ km} \approx EH$ **4 Look Back** The problem asks for the distance to the nearest km. Check that the answer is reasonable by using the Pythagorean Thm. Is $413^2 + 3397^2 \approx 3422^2$? Yes, $11{,}710{,}178 \approx 11{,}710{,}084$.
16.	32	By Thm. 11-1-3, $AB = AC$ $2x^2 = 8x$ Since $x \neq 0$, $2x = 8$ $x = 4$ $AB = 2(4)^2 = 32$
17.	7	By Thm. 11-1-3, $RS = RT$ $y = \dfrac{y^2}{7}$ $7y = y^2$ Since $y \neq 0$, $7 = y$ $RT = \dfrac{(7)^2}{7} = 7$
20.	N	N

Question	Answer	Solution
26.	138°	By 2 segs. tangent to ⊙ from same ext. pt. ⟶ segs. ≅:, a line tangent to ⊙ ⟶ line ⊥ to radius, the definition of a circle, and SAS, $\triangle PQR \cong \triangle PQS$; so $\overrightarrow{PQ}$ bisects $\angle RPS$. Therefore, $m\angle QPR = \frac{1}{2}(42) = 21°$. By a line tangent to ⊙ ⟶ line ⊥ to radius, $\triangle PQR$ is a right △. By the Sum, $m\angle PQR + m\angle PRQ + m\angle QPR = 180$ $m\angle PQR + 90 + 21 = 180$ $m\angle PQR = 180 - (90 + 21) = 69°$ $m\angle PQS = 2m\angle PQR = 2(69) = 138°$